

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Previously amended): A method for the preparation of a recombinant polypeptide comprising

a) transforming a host cell with an expression vector comprising:

(1) a nucleic acid sequence capable of regulating transcription in a host cell, operatively linked to

(2) a chimeric nucleic acid sequence encoding a fusion protein, the chimeric nucleic acid sequence comprising (a) a nucleic acid sequence encoding a chymosin pro-peptide, linked in reading frame to (b) a nucleic acid sequence heterologous to the pro-peptide and encoding the recombinant polypeptide, wherein the heterologous nucleic acid sequence is located immediately downstream of the nucleic acid sequence encoding the chymosin pro-peptide; operatively linked to

(3) a nucleic acid sequence encoding a termination region functional in said host cell,

b) growing the host cell to produce said fusion protein; and

c) adding a mature form of an autocatalytically maturing aspartic protease, that is capable of cleaving the chymosin pro-peptide, to the fusion protein so that the chymosin pro-peptide is cleaved from the fusion protein to release the recombinant polypeptide.

Claims 2-3 (Canceled).

Claim 4 (Currently amended): The A method according to claim 1 wherein said aspartic protease added in step (c) is selected from the group consisting of chymosin, pepsin, HIV-1 protease, pepsinogen, cathepsin and yeast proteinase A.

Claim 5 (currently amended): The A method according to claim 1 wherein the recombinant polypeptide is hirudin or carp growth hormone.

Claim 6 (Previously amended): The method according to claim 1 wherein the chimeric nucleic acid sequence does not include a sequence encoding a mature form of chymosin.

Claim 7 (Currently amended): The A method according to claim 1 wherein the pH is from about 2 to about 7 ~~which further comprises altering the pH, altering the salt concentration or altering the temperature in step (c).~~

Claim 8 (Currently amended): A method according to claim 7 wherein the ~~altering the pH comprises altering the pH to a pH is~~ pH is from about 2 to about 4.5.

Claim 9 (Currently amended): The A method according to claim 1 wherein step (c) takes place under in vitro conditions.

Claim 10 (Currently amended): The A method according to claim 1 wherein step (c) takes place under in vivo conditions.

Claim 11 (Canceled).

Claim 12 (Currently amended): The A method according to claim 44 10 wherein the in vivo conditions are those prevalent in a tissue or bodily fluid of an animal and wherein the tissue or bodily fluid comprises the milk, , the stomach, or the gut or the of said animal.


Claim 13 (Currently amended): The A method according to claim 1 wherein the mature form of the aspartic protease added in step (c) is chymosin.

Claim 14 (Currently amended): The A method according to claim 1 wherein the aspartic protease added in step (c) is heterologous to the chymosin pro-peptide.

Claim 15 (Previously amended): The method according to claim 13 wherein the chymosin is added under in vitro conditions.

Claim 16 (Previously amended): The method according to claim 13 wherein the chymosin is added under in vivo conditions.

Claim 17 (Canceled).

 Claim 18 (Currently amended): The method according to claim 17 16 wherein said in vivo conditions take place in a tissue or bodily fluid of an animal and wherein the tissue or bodily fluid is a stomach, ~~kidney, gut, blood or~~ milk of said animal.

Claim 19 (Currently amended): The A method according to claim 1 wherein said nucleic acid sequences are deoxyribonucleic acid (DNA) sequences.

Claim 20 (Currently amended): A chimeric nucleic acid sequence encoding a fusion protein comprising (a) a nucleic acid sequence encoding a chymosin pro-peptide and (b) a nucleic acid sequence encoding a polypeptide that is heterologous to the chymosin pro-peptide, wherein the heterologous nucleic acid sequence is located immediately downstream of the nucleic acid sequence encoding the chymosin pro-peptide.

Claims 21-23 (Canceled).

Claim 24 (Currently amended): The A chimeric nucleic acid sequence according to claim 20 wherein the polypeptide is hirudin or carp growth hormone.

Claim 25 (Currently amended): The A chimeric nucleic acid sequence according to claim 20 which does not include a sequence encoding a mature form of chymosin.

Claim 26 (Currently amended): The A chimeric nucleic acid sequence according to claim 20 wherein said nucleic acid sequences are deoxyribonucleic acid (DNA) sequences.

Claim 27 (Currently amended): The A chimeric nucleic acid sequence according to claim 26 wherein the chimeric sequence is as shown in ~~SEQ.ID.NO.1.~~ SEQ ID NO:1 or ~~SEQ.ID.NO.3~~ SEQ ID NO:3.

Claim 28 (Currently amended): An expression vector comprising the a chimeric nucleic acid sequence according to claim 20 and a regulatory sequence suitable for expression in a host cell.

Claim 29 (Original): A transformed host cell containing an expression vector according to claim 28.

Claim 30 (Original): A transformed host cell containing an expression vector according to claim 28 wherein the host cell is a bacterial cell, a fungal cell, a plant cell or an animal cell.

Claims 31-40 (Canceled).

Claim 41 (Currently amended): A composition comprising a chimeric nucleic acid sequence encoding a fusion protein, the chimeric nucleic acid sequence comprising (a) a first nucleic acid sequence encoding a chymosin pro-peptide and (b) a second nucleic acid sequence encoding a polypeptide that is heterologous to the chymosin pro-peptide, wherein the heterologous nucleic acid sequence is located immediately downstream of the nucleic acid sequence encoding the chymosin pro-peptide.

Claim 42 (Canceled).

Claim 43 (Currently amended): The A composition according to claim 41 wherein the nucleic acid sequences are deoxyribonucleic acid (DNA) sequences.

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Claim 44 (Currently amended): The A composition according to claim 41 wherein said chimeric nucleic acid sequence does not include a sequence encoding a mature form of chymosin.
